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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Region Eight
Albuquerque, New Mexico

Hugh G. Calkins
Regional Conservator

DESTRUCTION OF VILLAGES AT SAN MARCIAL

Regional Bulletin No. 38
Conservation Economics Series No. 11
May 1937

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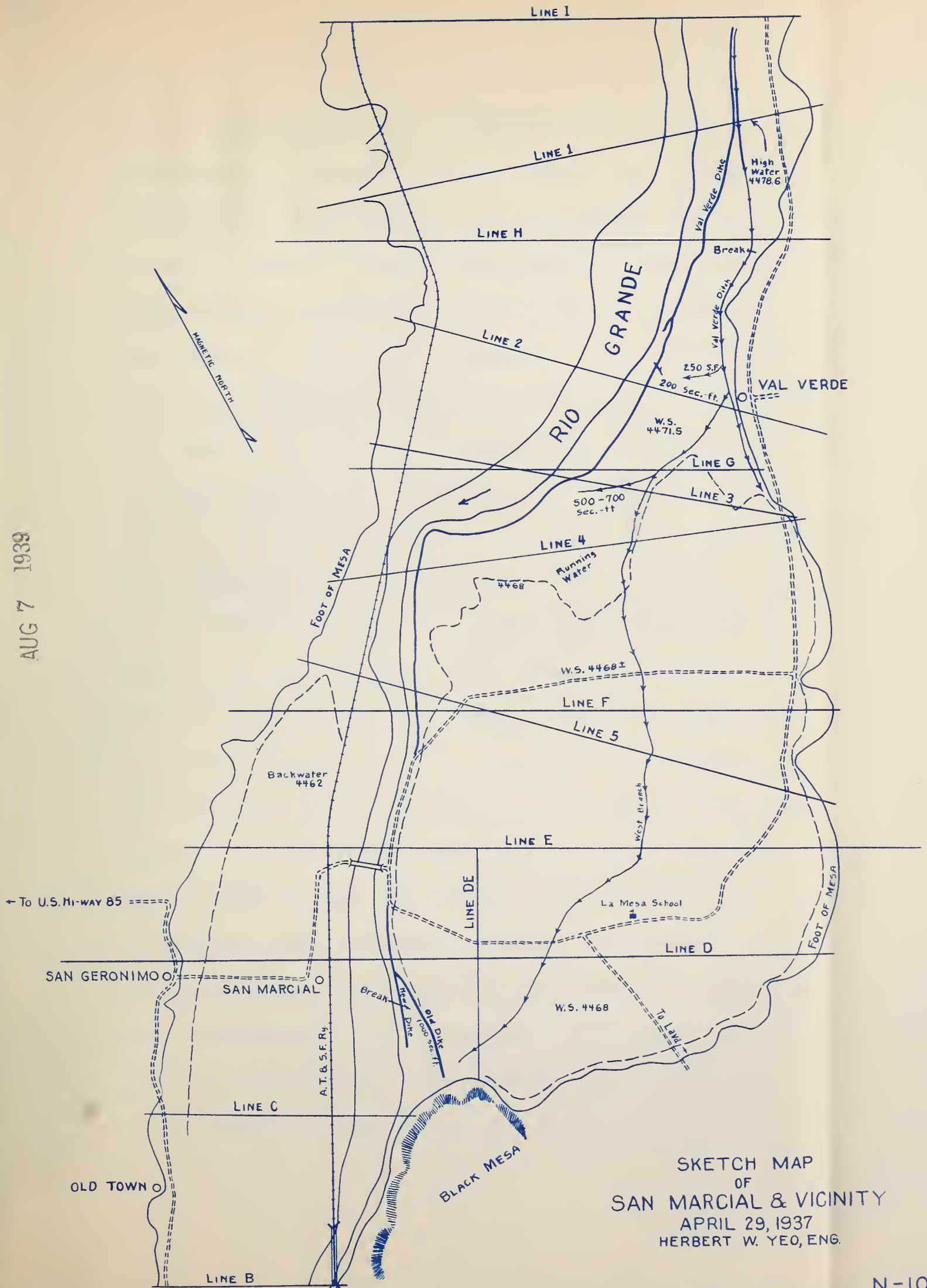
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REPORT
Soil Conservation Service
U. S. Department of Agriculture
Washington, D. C.

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SKETCH MAP
OF
SAN MARCIAL & VICINITY
APRIL 29, 1937
HERBERT W. YEO, ENG.

The economy of the villages in the San Marcial area has undergone a series of radical changes within comparatively recent times. These changes have in all cases occurred when the number of alternative ways of securing a livelihood in the area has increased or decreased. Prior to the Civil War, it is probable that the only means of securing a livelihood available to most of the inhabitants was agriculture and livestock raising in a modest way for domestic consumption. The large commercial livestock operations of that day were in the hands of a few large operators who were able to make stock drives into Chihuahua and, sometime later, to California. Very few of the villagers in the San Marcial area, or in other areas of New Mexico, for that matter, were affected by the commercial stock operations of the early days - most of the people lived in an almost self-contained economy. During the Civil War and immediately after, the government became a large buyer of livestock, thus making a market available to the small stock raiser for the first time. This in effect opened up a second alternative way of securing a livelihood to the villagers, especially to those who, as in the San Marcial area, were located in the vicinity of army posts. This alternative, i. e., commercial stock raising, was dependent upon the availability of free grazing lands, and the huge Pedro Armendariz Grant was open and freely available, as

were all the other grazing lands in the vicinity, to the villagers in the San Marcial area. When the government, first through the army, and later through the Indian Service, ceased being the chief buyer of New Mexico livestock, the coming of the railroad opened up the eastern market. Thus from about 1863 to about 1890, livestock raising was an important alternative way of making a living to the people of the San Marcial area. When the A.T. & S.F. Railway, then called the Atlantic & Pacific Railway, built its line from Belen to El Paso in 1884, the alternative of wagework was added to the others, and in time became the most important factor. In 1925, when the owners of the Pedro Armendariz Grant fenced it, stock raising became insignificant to most of the inhabitants. The 1929 flood removed the alternative of extensive local wagework permanently, and of agriculture temporarily. Since 1929, the last remaining alternative, that of agriculture, has undergone progressive decline. Since then relief in one form or another has had to make up the inadequacy.

This in broad outline, is the background of the picture of the economy of the San Marcial area that this report will attempt to show.

PHYSICAL DESCRIPTION

South of Socorro, the Rio Grande winds like a brown ribbon with uneven green borders through gray range lands. This is the southern portion of the Middle Rio Grande Valley, and shows most clearly the effects of the tremendous deposits of silt that have come down the Puerco, the Salado, and the Rio Grande. Much of the land has become water logged from the river, the bed of which is now above most of the surrounding valley floor lands, and dense growths of tamarisk, willow, tor-nillo, and cottonwood encroach on the limited agricultural lands. This situation reaches its climax at San Marcial, thirty miles south of Socorro, and just north of the northern boundary of the Elephant Butte Reservoir. There a bend of the river away from the bluffs forming the eastern edge of the valley left a pocket of 5,000 acres of flat land between the river and the bluffs. About 3000 acres of this land has always been water-logged, and covered with salt grasses and other marsh vegetation. The other 2000 acres, that portion of the valley nearest the foot of the mesa was cultivable, and it was this land that was eventually broken and put under ditch by the people who settled San Marcial. Prior to 1908 some land was irrigated in the vicinity of Old San Marcial, but seepage and sand brought down by floods in the arroyos entering the area

from the west had destroyed this land. The important agricultural lands, then, have been those on the east side of the river as described above. The amount of tillable land there has decreased every year because the river bed gradually silted up to a level higher than the farm land, but dikes and revetments kept the river out quite consistently until 1929, when the entire area was disastrously flooded. Since then, a losing battle has been waged to save the farm land from seepage and floods, and now (May 1937) this land is under six to ten feet of water.

The San Marcial area at present includes four communities. Two of these, La Mesa and Val Verde (the Post Office at Val Verde is known as Clyde) are located east of the river at the south end and north end of the agricultural land mentioned above. The other two, Old San Marcial and San Geronimo, are located on the west side of the river, where there is practically no agricultural land. Prior to 1929 the most important community was New San Marcial, and before the Elephant Butte Dam was constructed there was another community a short distance below Old San Marcial - This was Contadero. A few traces remain of New San Marcial, nothing remains of Contadero, which came under the condemnation proceedings that resulted from the construction of the Elephant Butte Dam in 1916.

These communities are served by a two-mile spur from U. S. Highway #85, which at one time went through San Marcial, and by the A.T. & S.F. Railroad.

HISTORICAL BACKGROUND

Old San Marcial is one of the oldest settlements in New Mexico. The grandfather of a sixty year old resident of the area was born there, and no one seems to know the exact date of settlement.

Prior to 1840 the San Marcial communities suffered repeated depredation from the hostile Indians, principally the Apaches. They were settled and abandoned many times. It appears that of the present communities Old San Marcial was settled first and that the people of that village farmed lands on both sides of the river. The communities of Val Verde and La Mesa were settled by these people from Old San Marcial who eventually built homes close to their farm lands on the east side of the river. The land that the people used belonged at that time to the old Pedro Armendariz Grant, which included more than 400,000 acres of grazing land besides the valley lands. No one paid much attention to the Grant, as the owners allowed free use. All of the agricultural lands were irrigated by four ancient ditches. In 1910 these were examined and des-

cribed by the New Mexico State Engineer and his description will be included in the section of this report dealing with the land in the area.

These sleepy villages entered the turbulent stream of history during the Civil War Period, when Fort Craig, a Union outpost, was constructed a few miles from San Marcial on the east side of the river. A great battle, the battle of Val Verde, was fought on the agricultural lands of the village, and great legends about that battle have been handed down. After the war, life in the area resumed the slow even tempo of an earlier day until the 1880's when two events took place that completely altered the life of the people in the communities of San Marcial, Val Verde and La Mesa. The first of these two events was the sale, by the heirs of the Pedro Armendariz Grant, of that Grant to an Englishman named Waddingham, who fenced the Grant and made an effort to collect rent for grazing. He was unsuccessful, and he thereupon sold the Grant to the Victorio Land & Cattle Co., a tremendous outfit whose head office is now in Fresno, California. The second event was the construction of the Belen - El Paso section of what is now the A.T. & S.F. Railway, and the making of San Marcial a division point on this line. The line was built in 1884, and the shops and roundhouse were built in 1886. New San Marcial sprang up as

if by magic, with its Midway and Main Street, its six general merchandise stores, its theatre, its saloons and night life. All the men in the area who wanted work had work at good wages. Some 200 Spanish-Americans from the vicinity and 100 Anglo-Americans were employed. There was no racial discrimination on the jobs, and many of the local men were drawing as high as \$1.00 per hour on steady work, and a wage of 74¢ per hour was common, although not the minimum. Very few people paid rent, food was cheap, and the golden age of San Marcial had definitely set in. Farming became secondary, although there were still over 100 families that made at least a portion of their living in that manner. The population of the area was about 2000 people.

In 1908 suit to quiet title on the lands of the Pedro Armendariz Grant was initiated by the Victorio Land and Cattle Co., and legal title was granted to 129 owners on about 3000 acres of valley land. The Victorio Land & Cattle Co. won title to some 900 acres of land in the valley.

Prior to 1911, the periodic floods on the Rio Grande did no great damage at San Marcial. In 1911 there was a considerable flood, and in 1912, a levee was constructed at San Marcial which cost the office of the New Mexico State Engineer, \$1,638.24, and the local residents an unestimated amount in con-

tributed men and team labor. In 1913 a breakwater was constructed at Val Verde. The State Engineer's office spent \$961.94 on this work, and in 1916, the same office spent \$255.00 repairing the San Marcial levee. In 1920 there was a heavy flood in the Rio Grande, which the state engineer described as follows in his report for that year:

"The last high water was in 1920, which was one of the worst floods on record, not only destroying crops, but washing away valuable lands and dwellings, and causing the railroad considerable expense. The damage still exists, and the same conditions are liable to occur again at any time. The damage and costs to the A.T. & S.F. Railway alone would pay an appreciable percent of the flood protection." (Note: It has been pointed out in a memorandum dated May 12, 1937, from M. A. Saxton to H. W. Yeo of the Soil Conservation Service that "The large loss occasioned the A.T. & S.F. Railway by this flood was due to an avulsion, which swept over the tracks in the San Marcial area.") The State Engineer's office spent \$493.82 on brush protection works at San Marcial that year. In 1925 and 1927 together the State Engineer spent \$1030.50 on flood protection and levee repair work at San Marcial. To recapitulate the above: from 1911 when floods first became an appreciable menace at San Marcial, to 1928, the office of the State Engineer, the state agency

charged with flood control work, spent a total of \$4329.50 on flood control at San Marcial. In addition there were large sums spent by the A.T. & S.F. Railway, and by the residents of the area, who, in addition, contributed a great deal of free labor each year. (It was stated by Sam Romero, a resident, that in 1927 there were 120 local teams working on the dike for several weeks.)

On August 12th and 13th, and on September 23rd and 24th, 1929 occurred the floods that completely altered the history of the San Marcial area. The New Mexico State Engineer reported then as follows:

"During the night of August 12th, a flood of large proportions entered the northern end of the Socorro Valley. At midnight of August 13th the crest of the flood had passed the southern end of the valley at San Marcial. In addition to the flood in the Rio Grande nearly every arroyo on the west side of the Socorro Valley had been carrying large flows during the preceding two days.

"As a result of the high water, both in the river and in the arroyos, hundred of acres of crops were ruined; homes were damaged or destroyed at San Acacia, San Antonito, San Marcial, La Mesa, and on some farms; dikes were broken and destroyed above Polvadera, and at San Antonio, Val Verde and San Marcial; the irrigation ditches which supply water to the communities of San Acacia, Polvadera, Limitar, Socorro, San Antonio, San Antonito, Val Verde and La Mesa were damaged.

"The cropped land at Val Verde and La Mesa are located in an area which is lower than the Rio Grande. These lands were protected from overflow by about twelve miles of dikes which was broken in many places, and which was entirely destroyed north of the San Marcial-La Mesa bridge. Flood water formed a large lake over the entire Val Verde valley, destroying all

improvements and crops of the area.

"At San Marcial, water attained a height of four feet in Railroad Street and was six to eight feet deep in some of the lower parts of the town. Mr. King, an engineer, and long time resident of San Marcial, stated that the water came through the dikes south of the town which had been broken two days prior to the flood to permit the water, which had accumulated from the flow of the arroyos, to pass down the valley. During flood periods backwater from the river flowed northerly after passing the control works constructed by the railroad and would have entered the town from the south if not prevented by the dikes which were built up by the residents of the town and the State of New Mexico. Two arroyos drain the foothills west of San Marcial and enter the Rio Grande valley just above Old Town and within that area which is protected from the Rio Grande by dikes. On the nights of August 10, 11th, 12th, both arroyos discharged large flows which necessitated the breaking of the dikes south of the town to permit the water to flow down the valley. Then when the Rio Grande flooded, backwater from the river entered the town through the broken dikes.

"A vast amount of silt was deposited on the areas which the flood covered. Drainage of the newly deposited material was very slow and the work of reconstruction and rehabilitation was greatly handicapped thereby."

With respect to the September flood:

"Floods are not uncommon in New Mexico during the month of September as rains of the "cloudburst" type are of almost daily occurrence, and the resulting run off is heavy. There are no records, however, which show such widespread and heavy rains as those which occurred on September 21st, 22nd, and 23rd over the entire Rio Grande drainage area from Socorro north to the Colorado state line, and there is likewise no record, authentic or by word of mouth, of a flood which has approached the magnitude of the one which swept through the Socorro Valley on September 23rd and 24th, 1929.

"In the vicinity of Elmhendorf, water was several feet deep on the U. S. Highway 85 and the railroad subgrade was broken in several places.

"The dikes protecting the Val Verde Valley were again

destroyed permitting such a large volume of water to pour into the valley from the north that a lake was formed, the level of which was higher than the river along the southwestern edge of the valley, where water flowed over the dikes and back into the river. Very little additional damage was done in the Val Verde area, however, as the first flood had destroyed everything which water could damage.

"New Town and a part of Old Town at San Marcial were completely destroyed. The dike along the river east of San Marcial was broken in a number of places and torrents of muddy water rushed upon New Town, depositing sand to a depth of six feet in and around the buildings. The railroad tracks were torn up and buried; the round house was directly in the path of the water which flowed through one break; other breaks were directly in front of the Harvey House and depot and the streams from them entered those buildings from the front and flowed out the back. After the flood receded two story houses had the appearance of being of one story only as sand and silt were deposited to the level of the second story. Merchandise, furnishings, and store buildings were destroyed and many residents of the town saved only the clothes which they wore. Automobiles, with only the tops protruding above the sand, remain to this day where they were standing when the flood descended. Old Town escaped the force of the current, but water impounded in the valley rose to such a height that all the buildings east of Main Street collapsed because of the saturation of the adobes of which they were constructed."

In a letter from the New Mexico State Engineer to Congressman Albert G. Simms, dated December 27, 1929, the damage loss, exclusive of railroad losses, losses to state and federal highways and reconstruction and betterments that had already been constructed by the state of New Mexico, was placed at \$951,500. Of this loss, \$500,000 was suffered by New San Marcial and Old San Marcial, and an estimated \$60,000 was suffered by Val Verde and La Mesa.

In October 1929, a few days after this flood, the Santa Fe began removing its shops and roundhouse. The A.T. & S.F. had been anxious to remove their division headquarters for some time, and prior to 1916, had attempted to have San Marcial included in the area surveyed for condemnation proceedings by the U. S. Reclamation Service in connection with the construction of the Elephant Butte Dam. Actually, the height of the dam was determined so that San Marcial would remain above the reservoir, and the Railway Company was unable to prove in court that the damage caused by the 1929 flood was due to the building of the dam. When the R.R. shops were removed from San Marcial, the company transferred some 200 of their 300 workers to Belen, El Paso, and Albuquerque, from which points they conducted their former operations. About 130 families owning or using farm land, and 60 erstwhile shop and roundhouse workers' families remained in the San Marcial area. The Red Cross spent an undetermined amount on relief through the 1929-1930 winter, the State Engineer spent \$7000 on rehabilitation work after the flood, and the State Highway Department spent \$30,000, and estimated that it would have to spend \$200,000 more as a result of the flood. This, together with the work involved in moving the Santa Fe properties, and work on the tracks, furnished employment to the stranded population through 1929 and 1930.

The history of the San Marcial area since 1929 has been one of continuous decline. Not only has private employment declined, but a losing fight has been waged to preserve the land from ruin by seepage and flood. The river bed has been rising at the rate of $3/4$ ft. per year, and is so high above the agricultural lands that it has been the general feeling in the community for some time that flooding was inevitable. Government relief took up the task of supplementing agricultural income after 1930, and an increasing proportion of the community was dependent on some sort of government subsidy for a varying portion of its income during the years 1930 to 1937, when the area was again flooded.

POPULATION OF SAN MARCIAL AREA

	<u>From 1930 U. S. Census</u>		
<u>Village</u>	<u>1930</u>	<u>1920</u>	<u>1910</u>
Cantadero	0	61	147
New San Marcial	235	807	695
Old San Marcial	245	305	500
Val Verde	162	266	255
La Mesa	<u>61</u>	<u>275</u>	<u>200</u>
	703	1714	1797

Cantadero was condemned when the Elephant Butte Dam was built, and it was finally flooded out in 1924, when the reservoir filled up for the first time. The sharp drop, indicated by the above table, in the population of the area between 1920 and 1930 occurred immediately after the 1929 flood.

The population of the area just prior to the 1937 flood, as nearly as could be determined from interview with remaining residents in May, 1937, was as follows:

<u>Community</u>	<u>No. of Families</u>	<u>Population</u>
Cantadero	None	
New San Marcial)	None	
San Geronimo)	23	115
Old San Marcial	30	145
La Mesa	20	105
Val Verde	<u>30</u>	<u>135</u>
	103	500

Fifty-one (51) families representing, approximately, 200 people left the area between 1930 and early 1937, most of them because their lands were destroyed by seepage. Of these 51 families, 48 owned, and in many cases still own, land in the area, and 3 were share croppers. Since the 1937 flood, there has been a constant and continuing exodus of families, so that it is well nigh impossible to determine the number of

families remaining at present (May 1937). The best estimate that could be made by local residents interviewed was that 36 to 39 families left the area after the 22nd of April, 1937. This indicated that at the time the material for this report was gathered, there were 63 to 67 families left. This number is decreasing very rapidly, and it is difficult to predict how many will remain for any length of time. There are a few families who depend on livestock or wagework, rather than on farming for a living. These families will probably remain in the area. There are other families who depend on farming for the bulk of their livelihood, but whose homes were not utterly destroyed by the recent floods. These families do not like to give up their houses, but they will be forced to do so unless they are able to get some sort of local wagework in the near future.

The racial composition of the population has changed greatly since 1929. At that time about $1/3$ of the total population in the area was Anglo-American, and $2/3$ Spanish-American. Most of the Anglo-American families moved out after the 1929 flood, and in 1937 there were only 8 of these families left. All the rest of the families are Spanish-American.

LAND

The San Marcial area lies within the Pedro Armendariz Grant, which is owned by the Victorio Land and Cattle Co. This grant now includes over 400,000 acres of grazing lands, and approximately 900 acres of valley floor lands. The villagers own approximately 3000 acres in the valley floor, and 16 of them own approximately 10,000 acres of homestead land vest of the grant. This, in short, is the ownership status of the lands in the area.

The valley floor lands in the San Marcial area were surveyed in connection with the Rio Grande Joint Investigation, and as this is the most careful physical survey made of the area to date, their figures are herewith presented:

Land at La Mesa & Val Verde - 1936

Total acreage		4811
Irrigated (1936)	919	
Temporarily out of cropping:	<u>330</u>	
Total agricultural land:	1249	
Native vegetation	2617	
Water & Riverbed surface	<u>907</u>	
Total Non-irrigated		3524
Bareland, roads, etc.	38	

The 919 acres in crop are divided as follows:

Alfalfa	278	
Irrig. Pasture	290	
Early annuals	193	Wheat
Misc. crops	158	

The 2617 acres in native vegetation is as follows:

Grass	105
Brush	302
Bosque	2210

The water areas are divided as follows:

Pooled water	430
River & Canal surfaces	477

The 4800 acres surveyed includes all the valley floor in the San Marcial area. Before 1929, as the river bed silted up to a level above the surrounding valley lands, it was necessary to build protecting levees to keep the river out of New San Marcial and the agricultural lands at La Mesa and Val Verde. When the Elephant Butte Reservoir filled up for the first time in 1924, the water came to within two or three miles south of Old San Marcial. A dense growth of tamarisk, tornillo and willow set in along the northern edge, and this acted as a filter for the heavily silt laden river. A sort of barrier was built up between San Marcial and the reservoir. The A.T. & S.F. track formed a barrier to water entering the valley from the west side-washes, and these two factors added

to the silting up of the river bed, made a basin of the town-sites of Old and New San Marcial.

When the Middle Rio Grande Conservancy District was in the process of formation, it was contemplated that it would include the San Marcial area, but when the engineers saw the situation as outlined above they decided that flood protection at San Marcial would be too costly a burden on the district. The residents of the area made a vigorous fight to be included in the district but finally lost their fight in court.

The results of the 1929 flood bore out the predictions of the District engineers, and since then the circumstances that made the 1929 flood so devastating have become progressively worse. The silting up of the river bed has accelerated; the barrier between the San Marcial area and the reservoir has been built up; and the A.T. & S.F. tracks have been raised. These circumstances together resulted in the 1937 flood, which inundated the area to a greater extent than the 1929 flood, although the peak volume of water as measured by the flow was 52,000 cu. ft. per second in 1929 and only 35,000 cu. ft. per second in 1937.

Many residents at San Marcial claim that they have seen the lands below them, which at one time were under water, built up by silt to where they are now above the river. They think that the silt barrier that is now between them and the Elephant

Butte Reservoir will continue to build up and that the lakes now at San Marcial will eventually be above them, leaving the land at San Marcial above water.

AGRICULTURAL LAND

It was stated above that Old San Marcial is one of the oldest settlements in New Mexico, and that the people there used agricultural lands on both sides of the Rio Grande since very early days. All the land used is irrigated land as the precipitation there is very meagre (7 to 10 inches per year). This land was irrigated by four ancient ditches out of the Rio Grande. From south to north these ditches were the Contadero, the San Marcial, the Las Mesa, and the Val Verde ditches. In 1910 the New Mexico State Engineer examined these ditches, and described them as follows:

Acequia Contadero

"The heading of this ditch is on the east side of the Rio Grande about one-half mile north of the Santa Fe Railroad bridge, which crosses the Rio Grande at San Marcial.

"The diversion works are temporary, but were not examined.

"The ditch was examined September 28, 1910, near the railroad bridge and was flowing .50 cubic foot per second. The following are the data for the maximum capacity: 4.0 ft. plus 6.0 ft x 2.0 ft. equals 10.0 square feet, the sectional area, and velocity being 2.0 feet per second gives a capacity of 20.0 cubic feet per second. The ditch would have to be cleaned to

obtain that capacity.

"The irrigated area was estimated at 1,000 acres and the additional area that might be irrigated at 1,000 acres.

"The lands irrigated are near the plaza Contadero, and Spanish settlements were made before 1681.

"The value of the lands irrigated ranges from \$40.00 to \$100.00 per acre. The value of this land is not so great as formerly, as the river bed is filling in and that is raised, raising the water plane. The amount of salt grass pasture is increasing, and the area in cultivated crops is decreasing.

"Note: This land is now a part of Elephant Butte reservoir."

Acequia San Marcial

"Evidences were noticed on the west side of the Rio Grande of several old ditches which formerly irrigated lands on the west side of the Rio Grande in the vicinity of San Marcial, but from the evidences none of these have been in use during the past two years. The bed of the Rio Grande has been filling up in the vicinity of San Marcial for a number of years, and the water plane has been raised, until in places it is above the ground surface. In April 1908 the water surface in the Rio Grande to the north of the Depot Hotel was two feet higher than the main street of the town near the bank. Information was received on September 28, 1910, that the rock wing dams, or more properly jetties, constructed by the Santa Fe Railway to protect its grade through San Marcial had caused a narrow channel to scour near these jetties. This channel is lower than the main channel and the water draining into it, after the river becomes practically dry, has lowered the height of the water plane considerably. From the limited observations made, this condition is believed to be about correct.

"On September 28, 1910, there were about three cubic feet per second flowing in the Rio Grande at the railroad bridge at San Marcial, and on September 29, there were about 2 cubic feet per second. The water was evidently from the Rio Puerco."

Acequia La Mesa

"The heading of this ditch is on the east side of the Rio Grande about one mile in a northeasterly direction from plaza Val Verde. The ditch is located in the bottom lands and for the most part does not run near the mesa.

"The diversion works are temporary, and consist of a dam across the river bed made by driving posts into the river bed and filling in about them with brush, sod, mud, etc. This dam was partly destroyed, and water could be diverted into the ditch only at flood stages. This is the only dam across the bed of the lower Rio Grande that was noticed and examined.

"The ditch was examined on September 28 and 29, 1910, and was dry, as the water in the river could not be diverted with the poor diversion dam. The data for the maximum capacity are as follows: $\frac{4.0 \text{ ft.} \times 6.0 \text{ ft.} \times 1.5 \text{ ft.}}{2}$, equals

7.5 square feet, the sectional areas, and the velocity being 1.5 cubic feet per second, gives a discharge of 11.25 cubic feet per second.

"The area irrigated was estimated at 200 acres, and the additional area that might be irrigated at 200 acres.

"The crops under this ditch are not as good as under the Val Verde ditch.

"The date of construction was not learned. The report of Mr. Follett gives it before 1869.

"The value of the land was estimated to range from \$40.00 to \$80.00 per acre."

Acequia Val Verde

"The heading of this ditch is on the east side of the Rio Grande about five miles north of Val Verde. The ditch is located close to the mesa and wastes into the Acequia Centadero.

"The diversion works were temporary but were not examined. From the testimony received, it is evident that they were efficient.

"The ditch was examined September 28, 1910, and was dry. There was very little water in the River. The following are the data for the maximum capacity: $\frac{12.0 \text{ ft. plus } 15.0 \text{ ft.} \times 2.0 \text{ ft}}{2}$

equals 27.0 square feet, and the velocity being 1.5 feet per second gives a discharge of 40.5 cubic feet per second.

"The area irrigated was estimated at 800 acres. The additional area that might be irrigated was not estimated, but it is included in the general summary of non-irrigated lands.

"The people of Val Verde who were interviewed, testified that during this year there was sufficient water for their crops. They did not have water all the time, but seem to have been able to use what there was to advantage. There was water in the ditch on September 25, which probably came from floods that came down from the Arroyo Salado on September 22, and the Rio Puerco on September 25.

"The soil is good; free from alkali and the water plane is not near the surface. The crops were good this year. Wheat yielded 30 bushels and corn 40 to 50 bushels to the acre.

"Maps show about 5,000 acres in the valley about Val Verde. There are but two ditches, the Val Verde and La Mesa, and their combined area of irrigated land is 1,000 acres, so there are about 4,000 acres that are not irrigated.

"The farming lands I was told could be purchased for \$40.00 per acre. Bosque land can be bought for \$15.00 per acre. Probably the market value is about \$80.00 per acre.

"The date of construction is not learned, but is old. The report of Mr. Follett gives it as before 1869.

"The area of irrigated lands is increasing during the last few years. A flood came down the river some years ago and covered the irrigated lands with sand, but is being brought into cultivation again".*

* Report on Irrigation in the Rio Grande Basin, in Texas above Ft. Quitman, and in New Mexico during 1907, 1920, and 1928 - By H. W. Yeo, N. M.

In 1910, when the above examination of the ditch system was made, and during the intervening years until the 1929 flood, approximately 2000 acres at La Mesa and Val Verde were in crop. The lands were fertile and the crops, especially alfalfa, were excellent, although at times the area suffered from lack of water. This seems surprising until it is explained that the Rio Grande at San Marcial, until the building of the El Vado Dam, was an intermittent stream, and for the 12 year period preceding 1927 the river was dry an average of 39 days each year. The river bed continued to rise slowly forcing the abandonment to salt grass and tornillo of additional agricultural lands each year. From 1880 to 1930 the river bed was built up 8 feet at San Marcial. After 1929, the building up of the stream bed was accelerated greatly, and from 1930 to 1936 it built up from 8 feet to 12. The result of this was to reduce the crop lands from approximately 2000 acres in 1929 to 1250 acres in 1936. This was especially true about 1933 when seepage increased rapidly, and the crops, which were good in 1930, 1931 and 1932 began to decline rapidly.

The 1250 acres of crop land is owned by 128 owners who also own 1800 acres in native vegetation in the valley. If the holdings were equal, the average holding would be 10 acres of crop land and 14 acres in native vegetation. The holdings

actually vary from 5 acres to 100 acres, more than 50% of the owners owning less than 20 acres of both crop and native vegetation land. The crop land was operated, in 1936, by 98 operators, 13 of whom were tenants owning no land. Thus, of the 128 people who own land in the area, only 85 operated their lands in 1936. Practically all the 43 other owners had been forced out of their lands by seepage and flood. The 98 operators had 919 acres in crop in 1936, and an equal amount in 1937, the average acreage of crop operated by the 98 operators being a little over 9 acres.

CROPPING

All the information relative to cropping refers to 1936, as the 1937 crops were completely ruined by flood.

In the Joint Investigation of the Rio Grande tabulation of land acreage in the San Marcial area, the crop land in 1936 was given as 1249 acres. This, according to the same tabulation, was divided as follows:

Alfalfa	278 acres
Irrigated pasture	290
Early annuals	193
Miscellaneous Crops	<u>158</u>
	919 acres in crop

Temporarily out of cropping 330

1249 acres total crop land

In 1936, the crops in the San Marcial area ranked in importance as follows: alfalfa, wheat, corn, beans, garden crops, chili, melons, cantaloupes, and onions. Prior to the 1929 flood, fruit was of some importance, but the orchards were ruined at that time.

Alfalfa was the only cash crop in the area in 1936, and with it the credit accounts at the local stores were guaranteed. As many as four cuttings of alfalfa can be obtained when conditions are favorable, and the yield in the past has varied from 4 to 6 tons per acre. Alfalfa requires little attention. It is irrigated by the "border and Check" method, which is harmful to alfalfa because of the silting which covers the crowns of the plants. The most injurious deposition to alfalfa in this area occurs during July, when the Rio Puerco is highly silt-laden. The hay is baled in the field, and is either shipped or stored locally. Prior to 1929, a large percentage of the crop was shipped to the Texas markets, but since then, the bulk of the reduced San Marcial crop has been sold to local stock growers, usually through the local stores. The 1929 flood ruined the alfalfa, and in 1930 all the alfalfa fields were planted new. One of the local stores furnished most of the seed. The crop

increased from 1930 until 1933. Since then there has been a progressive decline, so that the yield in 1936 did not average over 2 tons per acre. In 1935 one store, handling approximately 40% of the total alfalfa crop that is sold, took in 320 tons. In 1936 the same store, handling the same percentage of the crop, took in 220 tons. Thus the 1936 commercial yield not including that used by the grower, from 278 acres was approximately 500 tons of alfalfa. The storekeeper bought alfalfa at \$10 per ton, so that the cash income from alfalfa in 1936 was approximately \$5000. This is practically all the cash income from agriculture, as none of the other crops are sold.

Wheat, the second most important crop, is practically all processed and consumed locally. The variety of wheat most commonly grown is Sonora, a soft white spring variety. The yield at San Marcial has averaged as high as 40 bushels per acre, but it too has declined since 1929. In 1936 approximately 150 acres were planted in wheat, and the 10% toll taken in by the local threshing machine owner, who threshed all the wheat grown in the area, was 300 bushels. Thus the wheat harvest in 1936 meant approximately 75,000 pounds of flour to the people of San Marcial.

In the growing of wheat the seed is usually broadcast, plowed under, and then irrigated. The planting is done from

February 20 to March 15, and the wheat is usually ready for harvesting late in June or early in July. The general practice is to plant beans as a second crop.

Approximately 125 acres of land in the area in 1936 were in corn. It was difficult to get reliable estimates of the yield, but most of the farmers there and the Socorro County Extension Agent agreed that the yield at San Marcial is 25 to 30 bushels per acre, and that an acre will make, besides the shelled corn, approximately 2 tons of fodder. The chief variety grown is Mexican June.

Pinto beans produce 700 to 1200 pounds to the acre under favorable conditions. The amount planted has decreased in late years because, according to residents, there is too much water too close to the surface of the land. About 50 acres was planted in beans in 1936. The rest of the land in crop was divided among the other crops in about equal parts. Chili wilt has decreased the importance of chili in the area to where the chili crop harvested is hardly sufficient to satisfy local needs.

LIVESTOCK

It has been pointed out that the only grazing lands in the immediate vicinity of the San Marcial area are the

grazing lands of the Pedro Armendariz Grant which belong to a large corporation, the Victorio Land & Cattle Co. The Diamond A, which is the cattle managing subsidiary of the Victorio Land & Cattle Co., repaired the grant fence completely in 1925. Prior to that time the villagers had had free grazing use of the grant and the adjacent public domain. They were allowed free use of the grant until 1932, when the Diamond A outfit decided to allot limited tracts to each of the villages. They allotted 1000 acres to Old San Marcial, 1000 acres to La Mesa, and 200 acres to Val Verde. The grazing resources on these allotments have been so limited since 1932, that only domestic stock has been placed on them. The domestic stock, in 1936, numbered 160 horses and an equal number of cows. There are twenty commercial cattle operators in the area. These men depend entirely upon their homesteads, (16 of them own approximately 10,000 acres of homestead land) and upon public domain and National Forest lands for grazing. The size of the holdings is indicated by the following:

1 herd numbers	500 head
1 " "	200 "
2 herds numbers	150 " each
1 herd "	100 "
1 " "	75 "
1 " "	60 "
13 herds number less than	50 " each

All these stockmen depend upon their valley lands for supplementary fodder. About 950 head of cattle, or just about 40% of the cattle owned by the villagers, were sold to F.E.R.A. under its drought relief program in 1934. At present, not counting the herd of 500, some 900 head of cattle are owned by 19 residents of the villages in the San Marcial area. If the income from cattle approximates what it has been found to be in northern New Mexico, i.e., \$7.50 per cow, then the income to the villagers from this source was approximately \$6,700 in 1936.

It was impossible to discover the number of cows that the Diamond A has on the Pedro Armendariz Grant at present.

WAGework

When the A.T. & S.F. Ry. Co., removed its shops from San Marcial in 1929, it took 240 of the 300 men who were working there at that time to where they moved the San Marcial operations. The 60 remaining had a little land or relatives in the area and they thought they could make a living there somehow. After the Santa Fe workers moved out, there remained approximately 160 families in the area. Of these 100 to 110 farmed land, and this left 50 to 60 families entirely dependent on wagework. Some 10 or 20 of the men from these families found local employment,

but local employment, besides being seasonal and limited, was to a large extent in the hands of members of farming families. This left approximately 40 of the families dependent on wage-work stranded, and they have formed the bulk of the area's relief population during the last 6 years. It has been stated that after the 1929 flood, the Red Cross and several state agencies came into the San Marcial area, furnished relief through 1931, and after that there was limited relief given, through the Red Cross, until 1933, when the C.W.A. was established. Since then, Federal Relief Projects have been by far the most important source of wage-work, as the analysis of relief and non-relief wage-work that follows will indicate.

RELIEF WORK

The weekly San Marcial Area payroll of C.W.A. from Dec. 1, 1933, until April 5, 1934, follows:

December 1, 1933	40 people	\$696	38 people	\$342
	39	684	38 "	342
	38	654	38 "	342
	38	570	25 "	277
	38	684	22 "	246
	38	684	18 "	204
	39	684	15 "	172
	38	342	12 people	141
	38	342	9 "	109
		April 5, 1934		

The total spent in the San Marcial area by C.W.A. in 1934 as labor wages was \$7515. The amount spent for supervisory wages was \$400, and for materials \$2017. Thus the total spent by C.W.A. was \$9932.

F.E.R.A.

The Federal Emergency Relief Administration took over the relief burden at San Marcial the 1st of February 1935. The 1934 crop was poor because of drouth and practically every family that was still in San Marcial in 1935 was on relief at one time or another that year.

No. of cases on F.E.R.A. Rolls	123
Total amount of F.E.R.A. relief given	\$6596

Of the 123 cases on F.E.R.A. rolls, the Rural Rehabilitation took over 55 during the last half of 1935, and loaned them \$1779 for subsistence. None of this money has been repaid, so that the total relief given to the area in 1935 was:

F.E.R.A.	\$6596
R.R.	<u>1779</u>

Total \$8375 Relief in 1935

The amounts given by F.E.R.A. during 1935 varies from \$2 to \$140. Only 24 of the 123 families on relief received over \$100 for the entire year from this agency.

W.P.A.

The Works Progress Administration took over the administration of work relief in the San Marcial area in October, 1935. This agency extended work relief to 78 families in the area, and the wages paid from October, 1935 until January, 1937, amount to \$21,124.09. The amounts paid to individual families vary from \$9.92 to \$629.11. Only 27 of the 78 families received over \$300 for the year from this agency. The projects on which these people worked were located all over the county, and were all directly under the supervision of W.P.A.

R.S.A.

The New Mexico Relief and Security Administration (since changed to Department of Welfare) took over the administration of relief to the unemployable population when the W.P.A. took over work relief. From December 1935 to May 1937 this agency gave \$561 to 9 families in the San Marcial area. The range in the amounts given to these families is from \$18 to \$120. Only 1 family received over \$100.

The relief burden, then, in 1936 and early 1937 in the area was 87 families, or approximately 400 persons out of a total population that in May, 1937 was only 500.

THE RURAL REHABILITATION DIVISION OF RESETTLEMENT
ADMINISTRATION

Aside from the \$1779 that this agency loaned to 53 relief clients in the latter part of 1935, it has not been active in the San Marcial area. The reason for this, according to the Socorro County agent, is that the lands at San Marcial were subject to flood, and they didn't consider the people very good risks for that reason. The 1937 flood bore out their contention, although those people who were considered good risks suffered equally, as an examination of R.R. loans in Socorro County will show. It is not surprising that no payments have been made in the San Marcial area on the 1935 subsistence loans when it is considered that of \$15,000 loaned in the entire county for subsistence in 1935, only \$300 has been repaid.

The Federal Feed and Seed Loan Corporation made various loans in the area in 1934 and 1935, but the amount involved and the percentage of repayment is not known to the writer of this report at present.

S.C.D.A.

In 1935 the Farm Program in Socorro County arranged to pay soil conservation benefits to 19 farmers in the San Marcial area. These 19 farmers received a total of \$238.83 for compliance - the payment ranging from \$2.74 to \$32.00.

Since 1933, to summarize the information presented above, the area has received government work and direct relief to the following extent:

Federal

C.W.A.	\$4,915.00
F.E.R.A.	6,596.00
R.R.A.	1,779.00
W.P.A.	21,124.09
S.C.D.A.	238.83
	<u>\$37,652.92</u>

State

R.S.A.	\$ 561.00
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Grand total	\$38,213.92
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The greatest number of families that have been on relief is 123 in 1935, the least number is 9 in the summer of 1933.

NON*RELIEF WAGWORK IN THE SAN MARCIAL AREA

The A.T. & S.F. Ry. still maintains a section gang in the San Marcial area, and 20 local men are employed by the company for about 8 months each year.

The Diamond A outfit employs 8 local men as fence riders. Prior to 1932, many more local men were employed by this company, but at that time some local families began butchering Diamond A cattle. The local riders would not report their neighbors, so the company brought in outside riders. This company pays \$30. to \$45. per month.

There are 7 large sheep outfits that graze their sheep west of the San Marcial area as far as the Mogollon Mountains. These outfits employ 25 local men for lambing and shearing. Only 8 have regular employment as herders. The wages have varied from \$20 to \$30 per month and keep.

There are 7 local cattle growers who employ seasonal help. Usually 15 to 20 men from the San Marcial area are employed for seasonal work, which lasts about 2 or 3 months each year. The rate of pay is \$1.50 to \$2.50 per day.

In the area there are 5 truck owners who make an average of \$10 per month during the winter hauling wood to Socorro. They cut cottonwood and other bosque wood, which does not bring a good price.

In 1937, a gold mine started operation in the hills west of the area. Thus far they have employed 10 local men, most of whom were on relief projects in 1936, at \$2.50 per day.

Aside from the above sources of employment, 10 to 20 men get work harvesting and threshing each fall, and once in 4 years a fertilizer company hires 5 men to take bat fertilizer out of some nearby caves. This employment usually lasts 3 months.

Prior to 1929, there was no migration out of the area in search of wagework. After 1930 a few went out, but found

no employment, so they returned home. It has been only since 1936 that the people of the area have gone away from their vicinity in search of wagework.

TRADE

There are 3 small grocery stores in the area. One of these, doing 90% of the business in the area, sold \$10,000 worth of goods in 1936. This store extends credit to 30 or 40 farmers, who guarantee their accounts with alfalfa, and to 20 stockmen. In 1937, this storekeeper had \$800 owed to him by the farmers, which was guaranteed by the alfalfa crop. Ten days before the 1st cutting, which was to go to the store, the floods ruined the area. The storekeeper estimates that he will lose at least \$500 of the amount owed to him. He is planning to leave the area as soon as he can dispose of his merchandise. This store sells gasoline, averaging 1,000 gallons per month.

The other two stores average \$30 to \$40 per month in sales. They extend no credit, and most of their sales are small - under 50 cents.

Besides the 3 grocery stores, there are 2 liquor dealers.

Most of the clothing is bought from Montgomery Ward Co., and an estimate of the amount involved may be gained by

an examination of the local money order business since 1933.

Quarter ending June 30, 1933	\$3,801.16
" " June 30, 1934	3,642.60
" " Sept. 30, 1935	2,171.67
" " June 30, 1936	2,294.71
" " March 31, 1937	2,178.56

The average annual money order business since 1933, according to the postmistress, has been between \$9,000 and \$10,000 per year.

An undetermined amount of trading is done at Socorro and at San Antonio, probably \$6,000 or \$7,000 per year.

CONCLUSION:

The economy of the San Marcial area described above no longer exists. The 1937 flood destroyed the houses as well as the crops, and this affected the livelihood not only of the farmers but also of the stock growers. Only a few families, those who have local work, or those who are caring for their livestock, remain in the area. The river now flows over the crop lands, and the adobe of the destroyed houses has already merged with the silt.

A meeting was called by the Resettlement Administration officials on April 22, 1937, five days after the flood, offering tentative loans to the flood refugees if they would resettle elsewhere in Socorro County. Some 36 of 79 heads of families

attending the meeting signified that they wanted to take advantage of the opportunity, even though it was too late to do much planting on the unsubjugated lands that they must take. (Actually the money had not yet been available by the 15th of July.)

A few days later the Governor of the state told another meeting at San Marcial, that the refugees had nothing to worry about, as he would take care of them by means of relief projects, of which the area had had none since December, 1936. Eventually a few did get jobs on the nearby highway project.

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U.S. Soil conservation service. Southwest region
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Regional bulletin no.38 (Destruction of
villages at San Marcial. 1937.